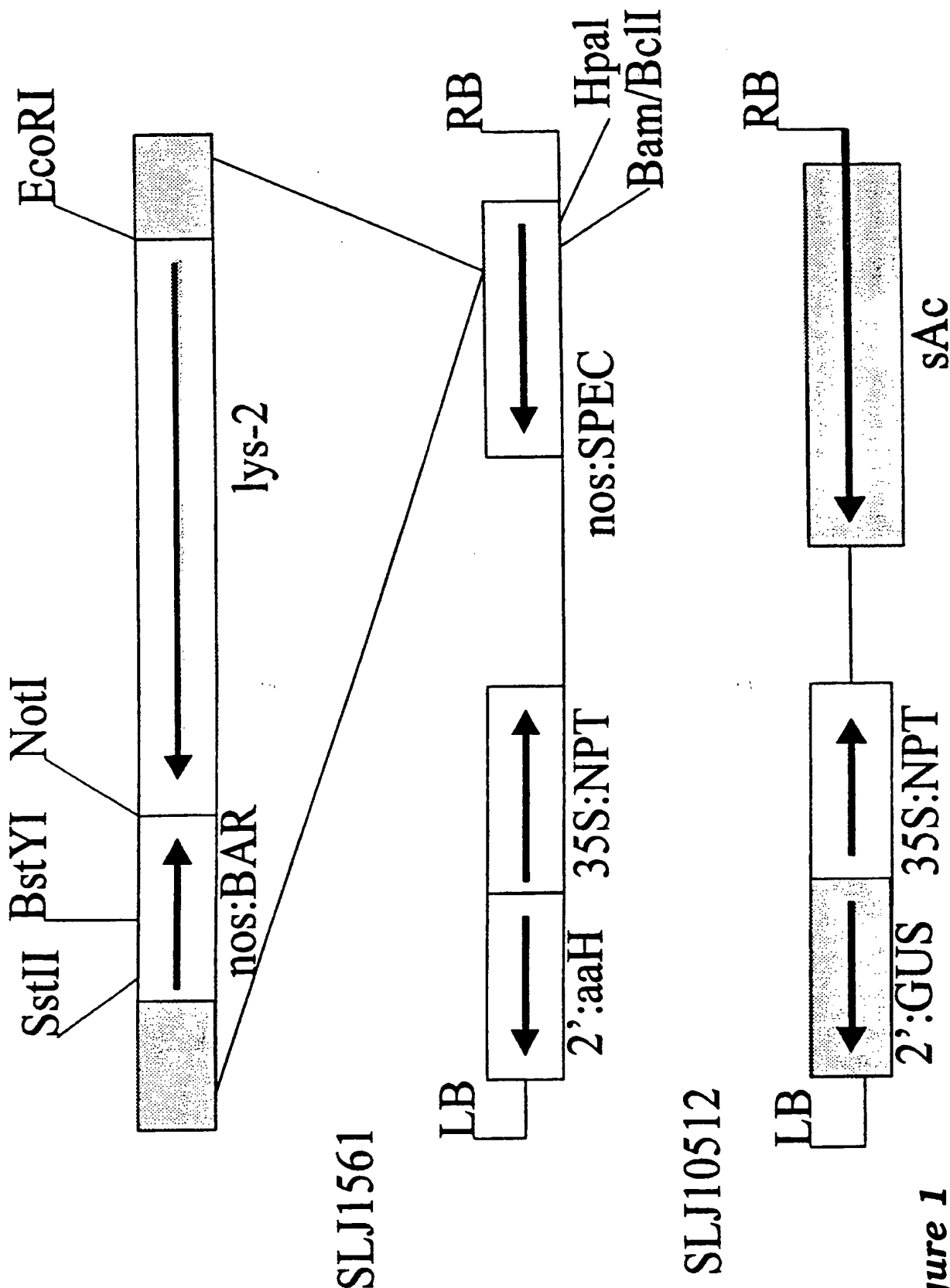


## **Two-component transposon system for transgenic tomato**



## Figure 1

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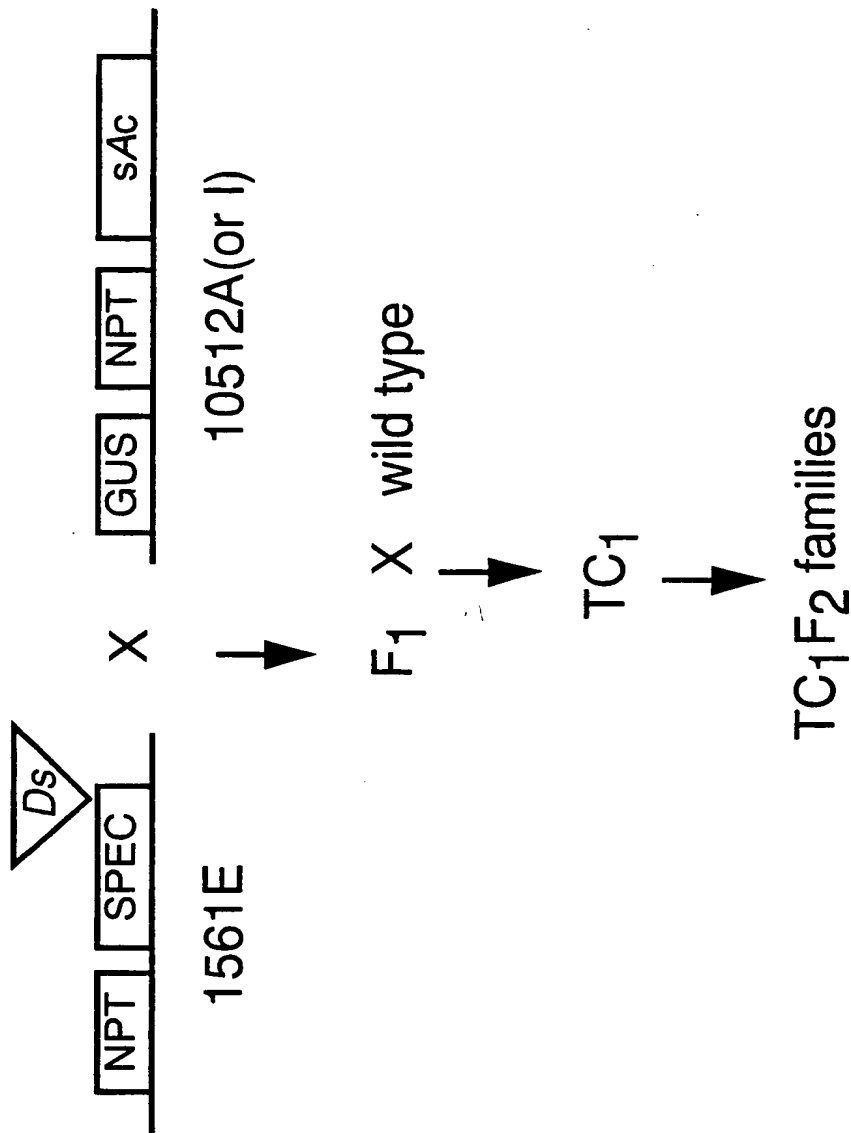
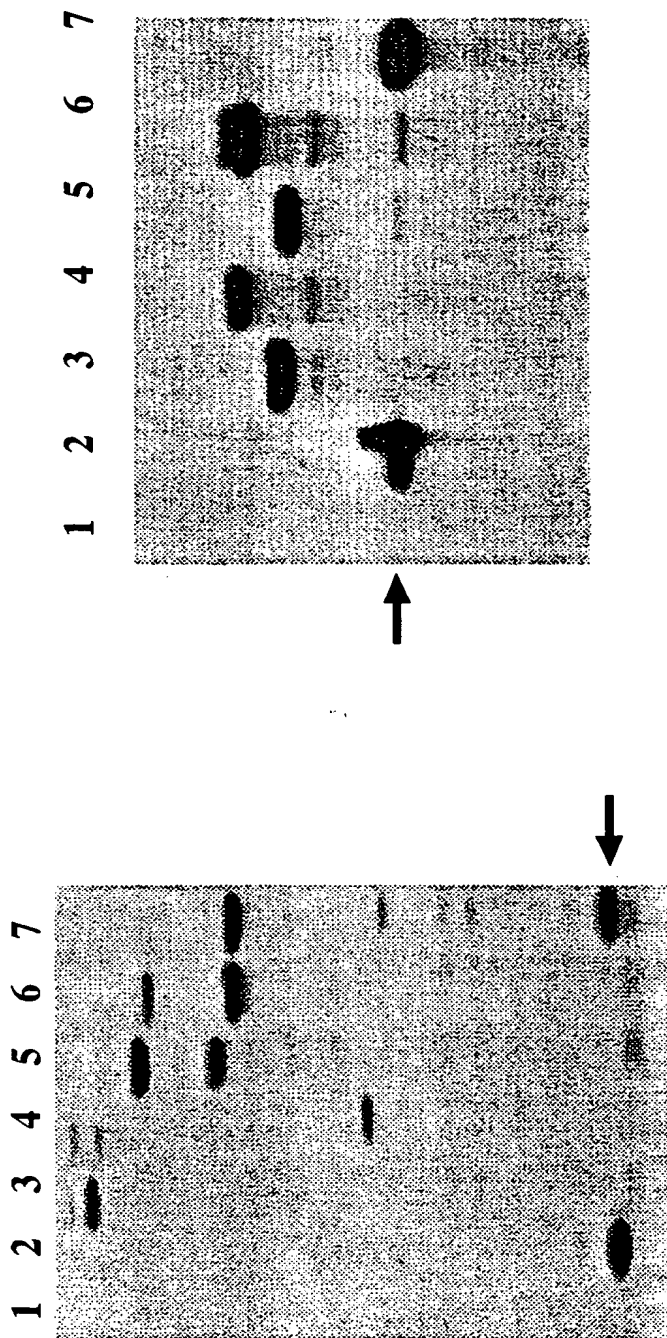
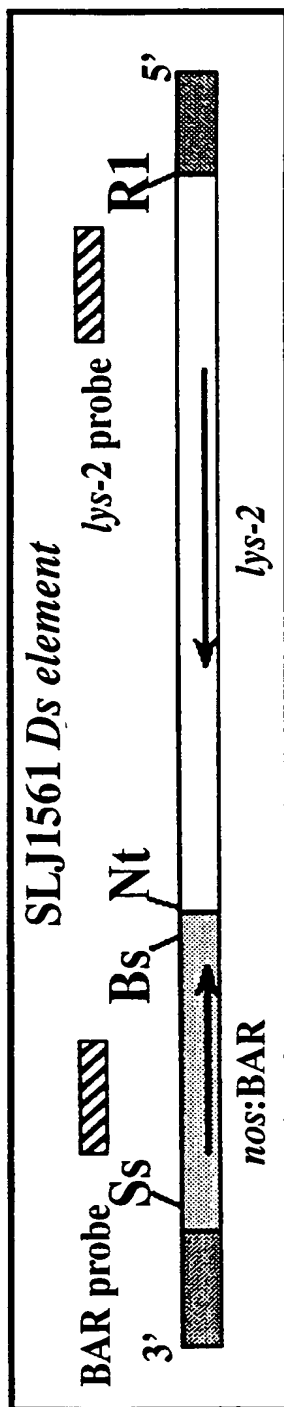


Figure 2

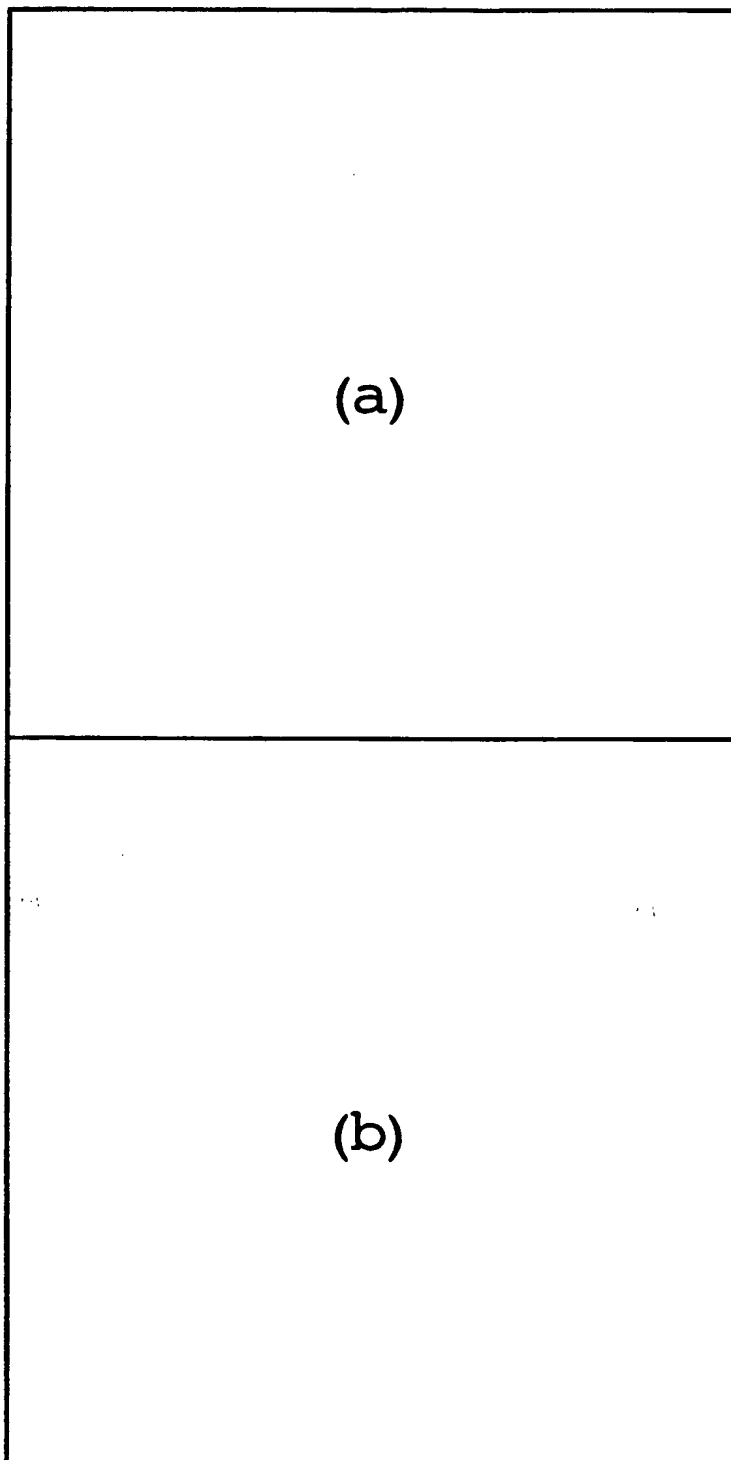
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Sst II + BstYI digest, BAR probe    Not I + EcoRI digest, *lys-2* probe

**Figure 3**

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**Figure 4(i)**

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**FIGURE 4(i)**

981 TTTGAAATTTATGTATATATCTGTAGCATTAGAACTATAAGAGTTGTTA 1030 **Potato**  
|||||  
40 TTTGAAATTTATGTATTTATCTATAGCATTAGAACTATAAGAGTTGTTA 89 **Tomato**  
1031 GCTTCACTTGTCTTATTGTTGTGCTCAAAGCAACT...TCATCATACAGT 1077  
|||||  
90 GCTTCACTTGGCTTACTGTTGTGCTCAAAGCAACTTCATCATCATACAGT 139  
1078 ATGGTTTTTATATGCTCTTCCATTATCACCGAACCTTATGATTATG.TGT 1126  
|||||  
140 ATGGTTTTTGATATGCTCTTCCATTATCACTGAGCCTTATGATTATGTTTT 189  
1127 ACGAGCTTATAATATTACTGATGGTGATTTCAGTATTATGATTATGTCCTC 1176  
|||||  
190 ACGAGCTTATAATATCACTGATGGTGATTTCAGTATTGTGATTATGTCCTT 239  
1177 CATTAATTATTCTGTTTCATACAAGTCGTGTAATTTGCTGTTTGTGATTG 1226  
| ||  
240 CGTTGATTATTCTGTTTCATACAAGTCGTGTAATTTGCTGTTTGTGACAG 289  
1227 TACGATAAATTGATTCAACCTTCTGCGGTGTTGGTTGAAGTTCAAGTAAA 1276  
|||||  
290 TACGATAGATCGACTCAACCTTCTGAGGTATTAGTTGAAGTTCATGTAAA 339  
1277 TTAGCTTTATTTATCATAGTAGCATTTGATTATTGATGCTCTGTAGCTAA 1326  
|||||  
340 TTAGCTTTGTTTATCATAGTAGCATTTGATTATTGATGCTCTGTAGCTAA 389

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1327 TGATAAGCCATTGAAGGGAAGCAGAAATGGTAAAGCTTCTAAAATGAAT 1376  
 |||||  
 390 TGATAAGCCATTGGAGGGAAGC.....AAGCTTCT.AAATGAAT 428  
 1377 CTACGAATGGATGATAAAGTTAATGAATATTGTTGATACTTCTGCAATCA 1426  
 |||||  
 429 CTACGAATGGATGATAAAGTTCATGAATATTTTGTACTTCTGCAGTCA 478  
 1427 GATTATGAGTTACTGAGTCTACTG.TTTTTTAAGCCTGTTTCAGATGATC 1475  
 |||  
 479 GATCATGAGTTATTGAGTCTATTGTTTTTTTAAGCCTGTTTCAGATGATC 528  
 1476 GATCATCAACAACAACATATTCAGTGTAGTAGACATGATCGATCACTTTC 1525  
 |||||  
 529 CATCATCAGTAACAACATACACGGTGTAGT..CCCAAATCCATCA..... 571  
 1526 TAATTTTCGATTATGCACCCTCTTTTCTCCAATTTGGTC..GTCTTCTTT 1573  
 |||||  
 572 .....TATGCACCTTCTTTTCTTCAATTTGGTCTTGTTTTTTTTT 610  
 1574 TTTTCATGATGTCACCTGAATTATTCTCTGGTCGTCCTCCCACTTCAGGAA 1623  
 |||||  
 611 TTTTCATGATGTCATTGAATT.....ATTCAAGAA 640  
 1624 GTC**ACTTCGAG**CATAATG...TGAAAACATCCACATTT.TTCAA..... 1663  
 |||||  
 641 GTC**ACTTCGAG**CATAATGATTTTTTCAAATCCACCTTTGTTCAAGCACTA 690

UQ406  
 insertion

Figure 4(i)(b)

Substitute Sheet  
 (Rule 26) RO/AU

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1664 .....ATCCAGC.....AGAATTTTC 1679  
                    ||| |||                      |||||  
691 CCACGTCTTTTCATCTAGCCCACAACCGTGGTGGAGGATCTAGAATTTTC 740  
1680 ATCAAACGGGGTTCAACATTTAC...TACATGTATACACTCTGAAGTCTG 1726  
      || ||| || ||||| ||||| || ||||| || ||||| || |||||  
741 ATGAAA..GGATTCAAATTTACAAACATATATATACACTATACACTATG 788  
1727 AATCCACTAATTCTAGATGGTGCATCTGTGCCCCCACACTTGTGAAAGCT 1776  
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
789 AATCCACTAATACTAGATGGTGCACCTGTGCCCCCACTCATGTGAAAGCC 838  
1777 TATTCTCAATTTTTTTATTTTCCAACAACCTTGAATTCAGACCACACAACCTC 1826  
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
839 TATTCTCAATTTTTTTATTTTCC.ACAACTTAAATACAGACCGCACAACCTC 887  
1827 CCGTGTCTTGT.....ACGGTCAGCATCTGAGTGGAGAACTCAA.... 1865  
      ||||| ||||| || ||||| || ||||| || ||||| || |||||  
888 CCGTGTCTTGTGTGCTCGTCGCTCAGCATGCAAGTCGAGAAAAGAAAGAC 937  
1866 .....TTAAGTGACTTTAACG 1881  
                                    || | |||||  
938 CAAAACAATGAAAACCTTTACGAAAAATCAAAAAGTTGAAGGACTTTAACG 987  
1882 TCGAGTTCTATAGTAAACAACCCCT.....ATATCTT 1913  
      ||||| ||| || ||| ||||| || ||||| |||||  
988 TCGAGATCTCTCGTAGAAAACCTCTTTTGTAAGGTTGCATACAATACTTT 1037  
1914 TTTTCAAGCATGTTAAGATTGCGAACACACTGA..... 1946  
      |||| ||| || ||| || ||| || |||||  
1038 TTTTTCAG.ACTTTACTTATGGTATTATACTGAATATGTTATTGCTGTTA 1086  
1947 .....AATTTCCAGGTCGTTAATCTTGTACC 1972  
                                    ||||| || ||||| ||||| |||||  
1087 TAGTAGTTGAGTGACGTTTGAGGGAATTTCTAGTCCGTTAATCTTGTACT 1136  
1973 CAGTGTGTGTACTTTTAAAAAAAAGTCAGTTTTTTTAGTCTCTAAAACA 2022  
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
1137 CAGTGTGTCTACTTTT...CAAAAAGTCAGTTTTTTCAGTCTCTAAAACA 1183  
2023 CATTTAAAT.AGAGTTTATTTG.CCATCTTTTGTTCCTCATACTAGACTT 2070  
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
1184 CATTTAAATAAGAGTTTCTTTGCCCATCTTTTGTTCCTCATCCTAGGCTT 1233  
2071 CGGAGTCAACACAACACAACA 2094  
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
1234 .GGAGTCAACACAACACAACA 1256

**Figure 4(ii)**Substitute Sheet  
(Rule 26) RO/AU

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cgacggccc	ggctggtaaa	tgcggaagct	tgttacagat	ttgaaattta	50
tgtatttatc	tatagcatta	gaaactataa	gagttgttag	cttcacttgg	100
cttactgttg	tgctcaaagc	aacttcatca	tcatacagta	tggtttttgat	150
atgctcttcc	attatcactg	agccttatga	ttatgtttta	cgagcttata	200
atatcactga	tggtgattca	gtattgtgat	tatgtccttc	gttgattatt	250
ctgtttcata	caagtcgtgt	aatttgctgt	ttgtgacagt	acgatatagtc	300
gactcaacct	tctgaggtat	tagttgaagt	tcattgtaaat	tagcctttgtt	350
tatcatagta	gcatttgatt	attgatgctc	tgtagctaat	gataagccat	400
tggaggggaa	gcaagcttttct	aatgaatct	acgaatggat	gataaagtct	450
atgaatatatt	ttgttacttc	tgcatgcaga	tcattgagttta	ttgagtcctat	500
tgttttttta	agcctgtttc	agatgatcca	tcattcagtaa	caacatacac	550
ggtgtagtcc	caaatccatc	atatgcacct	tcttttcttc	aatttggtct	600
tgtttttttt	tttttcatgat	gtcattgaat	tattcaagaa	<u>gttcactttcga</u>	650
gcataatgat	tttttcaaaa	ccacctttgt	tcaagcacta	ccacgtcttt	700
tcattctagcc	cacaaccgtg	gtggaggatc	tagaattttc	atgaaaggat	750

Figure 5(i)



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tcaaaattta	caaacatata	tatacactat	acactatgaa	tccactaata	800
ctagatggtg	cacctgtgcc	ccactcatg	tgaagcccta	ttctcaattt	850
tttattttcc	acaacttaaa	tacagaccgc	acaactcccg	tgtcttgtgt	900
gctcgtcgct	cagcatgcaa	gtcgagaaaa	gaaagaccaa	aacaatgaaa	950
actttacgaa	aatcaaaaa	gttgaaggac	tttaacgtcg	agatctctcg	1000
tagaaaaacct	cttttgttaag	gttgcataca	atactttttt	ttcagacttt	1050
acttatggta	ttatactgaa	tatgttattg	ctgttatagt	agttgagtga	1100
cgtttgaggg	aatttctagt	cgtttaatct	tgtactcagt	gtgtctactt	1150
ttcaaaaaag	tcagtttttc	agtctctaaa	acacatttaa	ataagagttt	1200
ctttgccccat	cttttgtttcc	tcatccctagg	cttggagtca	acacaacaca	1250
acaacaatga	atttccattt	ttctgtttct	ttacttctct	ctttatctct	1300
tcctatgttt	gcctcttcga	cgggtgttatt	tcaggatatcc	atctccaaag	1350
aaccttattt	ttctcttaac	ttttccctatg	tatatgtatc	tctatgttta	1400
tgtagtactt	gctcaagtat	ataaagaaaa	gttagtttct	ctagaatcct	1450
tgaattcatt	tgtaggggt	tcaattggga	ttcgagtaat	aagcaaggcg	1500

Figure 5(ii)

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gatggtacaa	ctctctcatc	aacttagttc	cggacttggc	taaagctgga	1550
gttactcatg	tttggttgcc	accatcatct	cactccgttt	ctcctcaagg	1600
taattttcgg	agtgattgtg	acctagtaat	ccaatgaagt	caaaataaacc	1650
acggaagatt	agagtctaaa	ttttaatgaa	aatagttcag	acaagtttaat	1700
gaccaactta	tatattagtt	caatccataa	aatttgatgt	agtagttaca	1750
aaatggaatt	gcttgaaggc	ttatgccatg	ttttatgcc	ggttatatgc	1800
caggaagggt	gtatgactag	gatgcttcca	agtttgaaa	tcagcaacaa	1850
ctgaaaactc	ttattaaggc	tttaacatga	ccacgggatc	aaatcggttg	1900
ctgatatagt	gataaatcat	agaactgctg	ataacaaaga	tagcagggga	1950
atatacagca	tctttgaagg	aggaacatct	gatgaccggc	ttgattgggg	2000
tccatctttc	atttgcagga	acgacacaca	atatcttgat	ggcacgggga	2050
atccagacac	gggtttggac	tttgaacctg	cacctgatat	cgatcatctt	2100
aatacagag	tcagaaaaga	gttatcagac	tggaatgaact	ggctgaaatc	2150
tgaaatggga	tttgatgggt	ggcgtttcga	ttttgttagg	ggatatgcac	2200
cttgcatctac	caaaatttat	atgggaaaca	cgcccccgga	ttttgtctgtt	2250

Figure 5(iii)

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ggtgaattgt	ggaactctct	tgcttatggc	caggacggga	aaccggaata	2300
taaccaggac	aatcatagaa	atgagctagt	tggttgggta	aaaaatgcgg	2350
ggcgggctgt	aacagctttt	gattttacaa	caaaggggaat	tcttcaagct	2400
gcagttcaag	aagagtttatg	gagattgaag	gatcccaatg	gaaaacctcc	2450
tgggatgac	ggtgttttgc	ctcgaaaagc	tgtgactttt	atcgataatc	2500
atgatactgg	atcgacacaa	aatatgtggc	ctttcccttc	agacaaaagt	2550
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aaaaaaaaata	aataaattct	ttctacatat	ctcattgttt	tctattttac	2650
aagaaattta	tattcttttc	caggggattt	gagaaactcg	gcctgtggga	2700
gtttgctcac	attgccagtc	tcgtaatcca	taaacaaaca	ctcaaaactct	2750
gagtgtgcac	atctagacac	ctcaactcgt	ttttcacccgt	gttaattgaa	2800
cacttcaact	tacaaaaatga	tcgtgtagca	cctccaaaaa	ttatgtgtca	2850
caattagcca	cgtgcgagat	acacgaaaaat	gagttggagt	agttagttgc	2900
caaataaaac	caagctgagg	tgtctaaatg	tgcacnctca	aagtnnggatg	2950
tttacttggc	agctgaggcc	gaggccatgt	ttgantgtta	tgcttatagg	3000

Figure 5(iv)

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atatgacaca tttgtttccg attagctgag ganttgatta aatcctngtt 3050  
ttngttngca gtttnatnac cattnctttg atnggggctn cnaggatgga 3100  
atnncagcac taanctctat taggaaaagg aataggattt gtgcancaag 3150  
caatgtgcaa ataatggctc ctgattctga atctttatat ancaatggat 3200  
catcacaaaa tcattgtcaa gattggacca aaacttgatc ttggaaatct 3250  
tattccacct aattatgagg tggcaacttc tggacaagac tatgctgtat 3300  
gggagcaaaa ggcataatca tattgtacca cactaaaagg gaccatggcc 3350  
acaatgggtc tcattagtggt taatgttata tgattgaaaa tgtaatttat 3400  
attgacataa tgaaggccaa aaattcaaga aattataaac aattcaatag 3450  
tccttgctca attcacaatt acattatgac ttctctattg caaactagtt 3500  
tgggtccaca ttattgtctc ctaaaatttt acaacatttc ttaagggaac 3550  
ttaattagtt acagtgaaca tatgttgaaa ttacccttta tccccttaca 3600  
attgatttaa taaatatttc ccctatccct ttggtagttg gttagagtta 3650  
taagtaacgt agagattagt tataagagaa tttatgtatt attatgcaga 3700  
tgtttagtta tatcgatttt agttatttat atgttgatta tttcaccttc 3750

Figure 5(v)

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aataatgc ataaagatgg taaatgattg gattgacga attcgaatga 3800  
 gtttgaatat gaactaatct tcaaatttaa tataaatttt ttttgtcaac 3850  
 atctatagcc aaacggctcc aaaacaataa ataatttaca tttattgtag 3900  
 tattttattt aaaatgggat ntccctcatc ccacttgtac cagttgaaac 3950  
 cctaataata agccaatcca accgtcaaaa ttacaaattt tgaaaaattgc 4000  
 gctcctcaca gttctcccct attcagattt gattcattct cttcattttt 4050  
 tgttttcaca ttttacctct aaatcaactc gagtccctt gttcaaatgg 4100  
gtgctaataca cagccgtgaa gatctggagg tttctgattc cgagtctgaa 4150  
tccgaatatg ggtccgagtc tcgaacaagg gaggaagagg aagacgaaga 4200  
taactactca gatgctaaaa cgacgccgtc ttccactgat cggaaacaga 4250  
gcaaaaacccc gtcttctttg gatgatgttg aagcaaaagct gaaagcttta 4300  
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tgttaaaactt taccttcatg ttggtgggaa cactgcgaat tccaaatggg 4400  
tagtttctga taagggtgaca gcttattcgt ttgtttaaatac gggtagtgag 4450  
gatggatcgg atgatgatga aaatgaagaa actgaggaga atgcttggtg 4500

Figure 5(vi)

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4550 ggttttgaaa attgggtcga aggttcgggc taagattgat gagaatttgc  
4600 agctcaaggc atttaaggag cagaaaaggg tggattttgt ggcgaatggg  
4650 gtttgggctg tgagattctt tggggaggaa gagtataagg cgttcattga  
4700 cttatatcag agctgtttgt ttgagaatac ttatgggttt gaggcacaatg  
4750 atgagaaatag agttaagggtg tatggtaaaag actttatggg gtgggcacaat  
4800 ccagaagctg cggatgattc aatgtgggag gatgctggg atagcttcgc  
4850 gaagagccct gcgtctgaaa agaagacacc tttagagggtt aaccatgatt  
4900 tgaggaggga gtttgaggag gcagctaaag gaggagctat tcagagccttg  
4950 gcattagggtg cgttggataa tagttttctt ataagtgatt ctggaattca  
5000 ggttgtgagg aactatactc atggaataag tggaaaagggt gtttgtgtca  
5050 attttgataa ggaaagggtct gctgtacctt attccactcc aaggaaaagct  
5100 ctacttctaa gagctgagac taatatgctt ctcatgagtc cagtgactga  
5150 tagaaaagcct cactctcggg gattacatca gtttgatatc gagactggga  
5200 aggttgtttag cagtggaag tttgagaaag atggaactga taccacgatg  
5250 agggatatca ctaatgatag caaaggaggct cagatggatc cttcgggggtc

Figure 5(vii)

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tactttctta gggctagatg ataacagatt gtgtagggtgg gatatgcgtg 5300  
 atcggcatgg gatggtccag aatctagtgt atgaaagtac tcctgtgctg 5350  
 aattggactc aaggacatca attttcgagg ggaactaaact ttcagtgcctt 5400  
 tgctactact ggtgatggat caattgttgt tggttcactt gatggcaaga 5450  
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 tcgacaagaa tggaaactact aagactgggtt ttgctgggtcg catgggaaat 5650  
 aagattttccg ctccaagatt gttaaagcta aacctctctg attcacatat 5700  
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 atgggaagca agagcggccac ctcgtttgcta ctgttgggaa gtttagtgtg 5800  
 atctggaatt ttcaacaggt gaaggatggt tctcatgagt gttaccagaa 5850  
 tcagggttggg ttgaagagct gctattgtta caagatagtc ctaagagacg 5900  
 actctattgt agaaagtcgt ttcatgcatg acaagtacgc tgttttctgac 5950  
 tcacctgaag caccactggc ggtagcaacc cccatgaaag tcagctcatt 6000

Figure 5(viii)

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<u>cagcatctct agcaggcgct tacaaatttg aacaatcatt ctgttcatat</u>	6050
<u>acgcaactta ttagatttat ctgtagcaga attagtgtct ctcacactaa</u>	6100
<u>gtagcttgaa aaactgcaca tctgcaaatac atttccagtt caatgtatta</u>	6150
<u>ctactttagt ttaaaaaacct taaaaggcag tcttccaaat tctaggtatc</u>	6200
<u>ctcacctgac attattatttg ttgtaatagc taattgttgc ttgctctaaa</u>	6250
<u>tccccgttca atg</u>	6263

Figure 5(ix)



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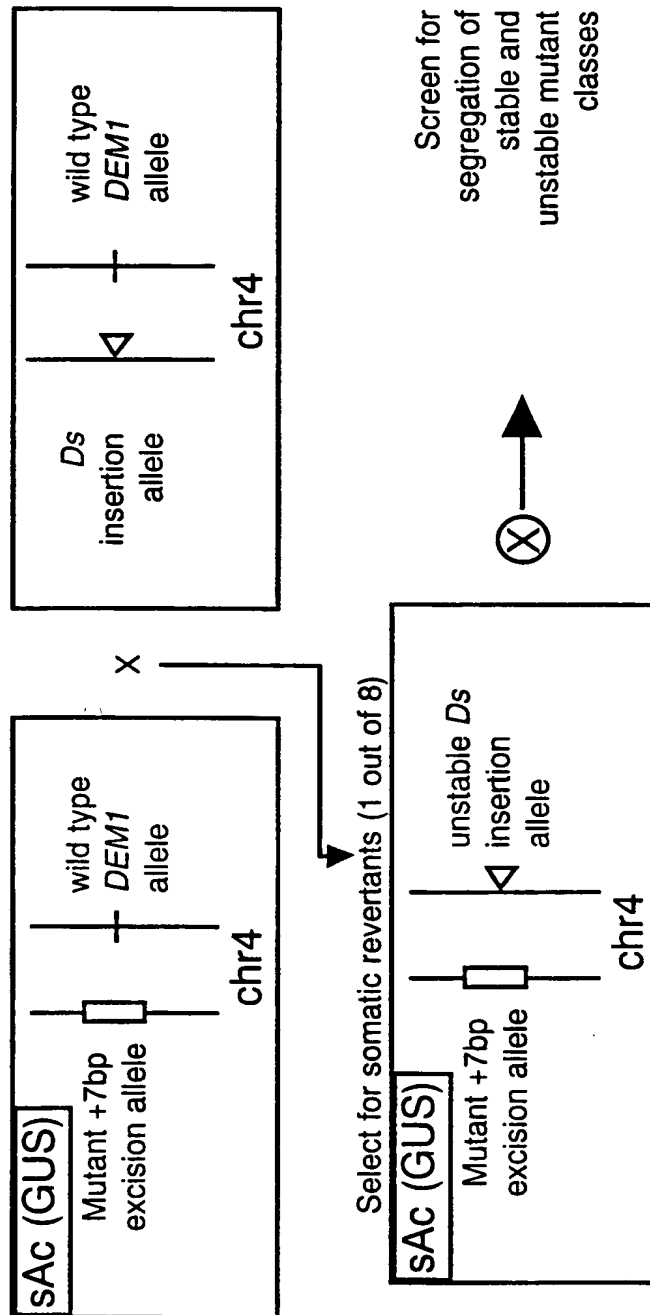
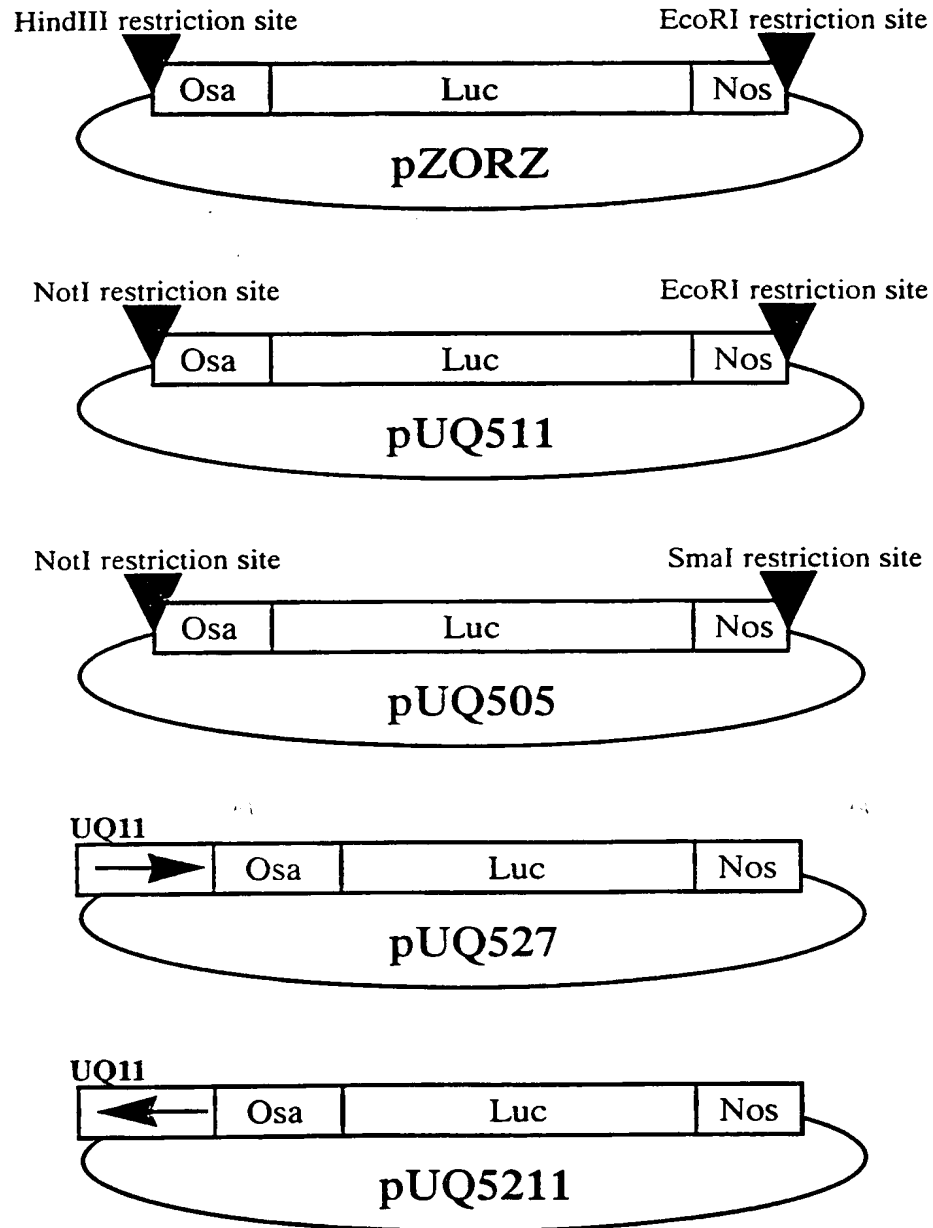


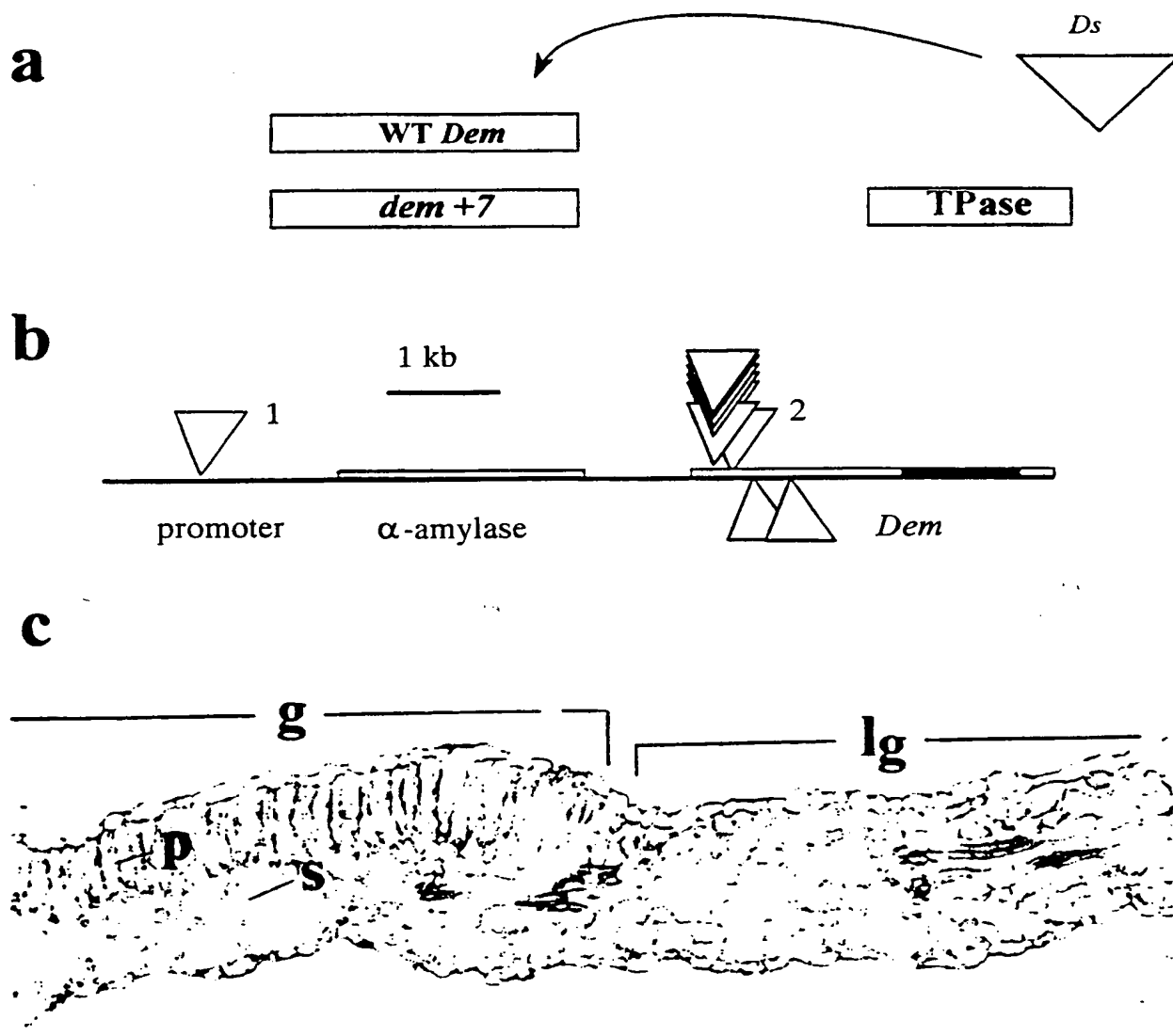
Figure 6

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**Figure 7**  
Substitute Sheet  
(Rule 26) RO/AU

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**Figure 8**

Substitute Sheet  
(Rule 26) RO/AU

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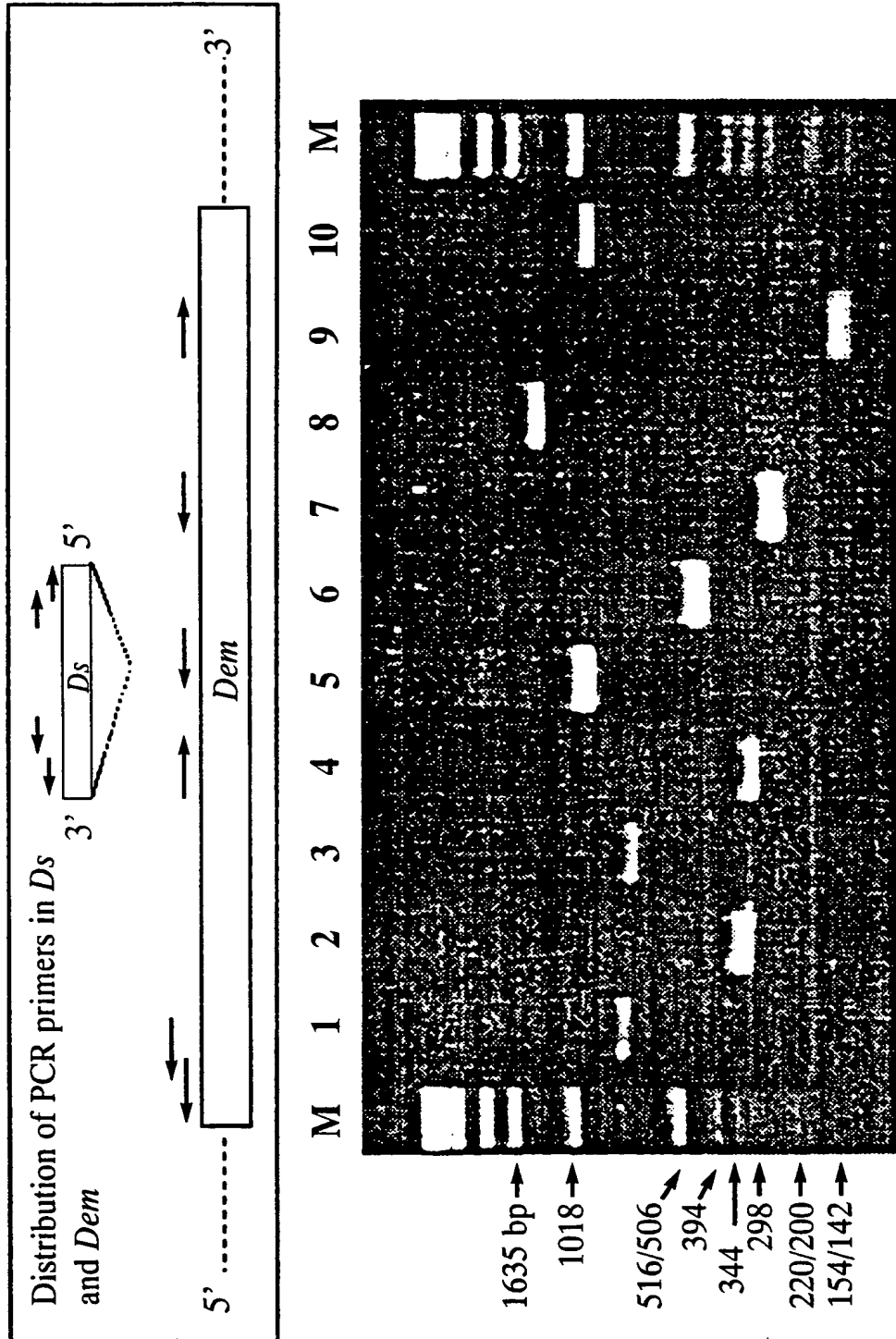
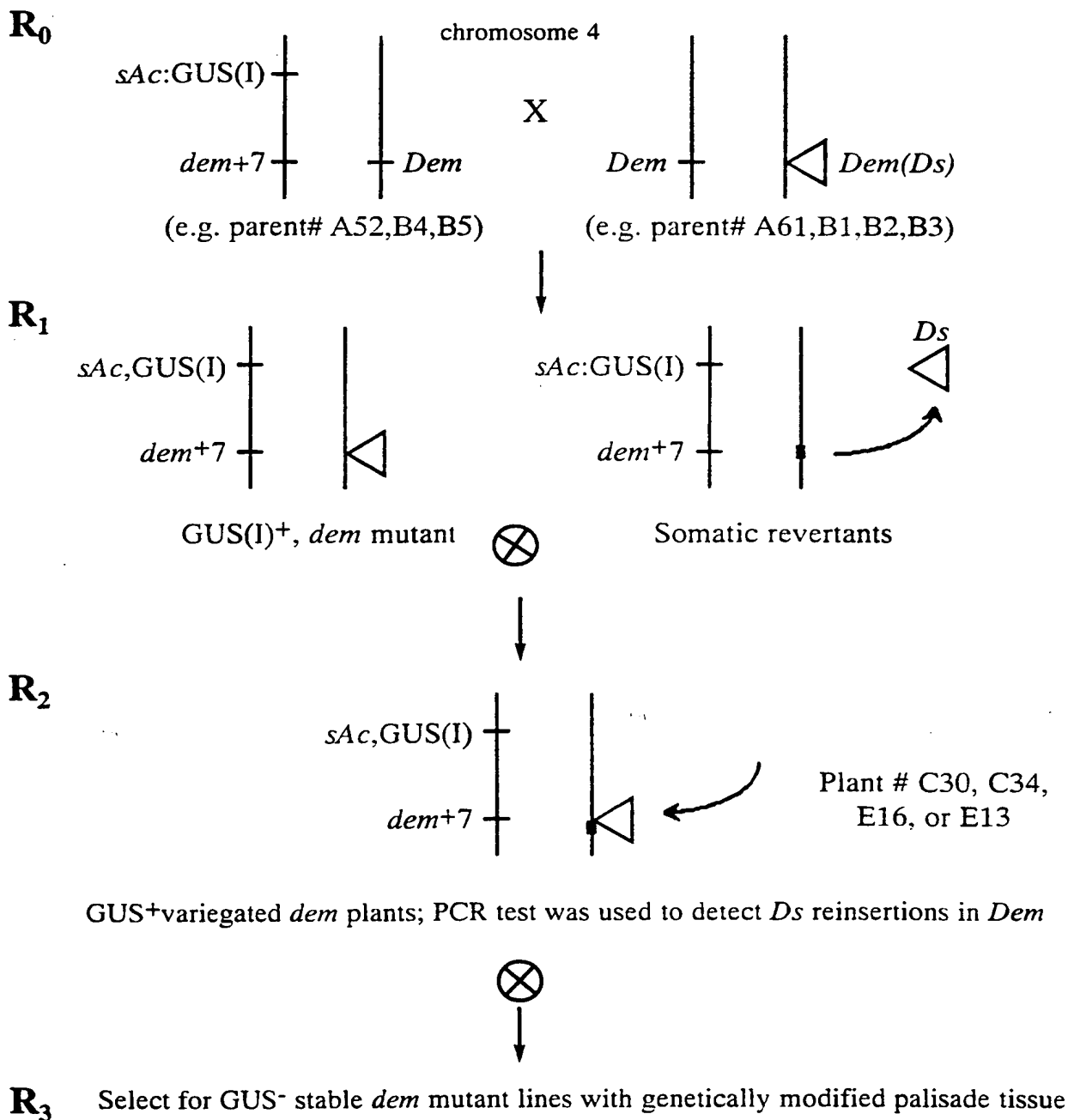


Figure 9

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**Figure 10**

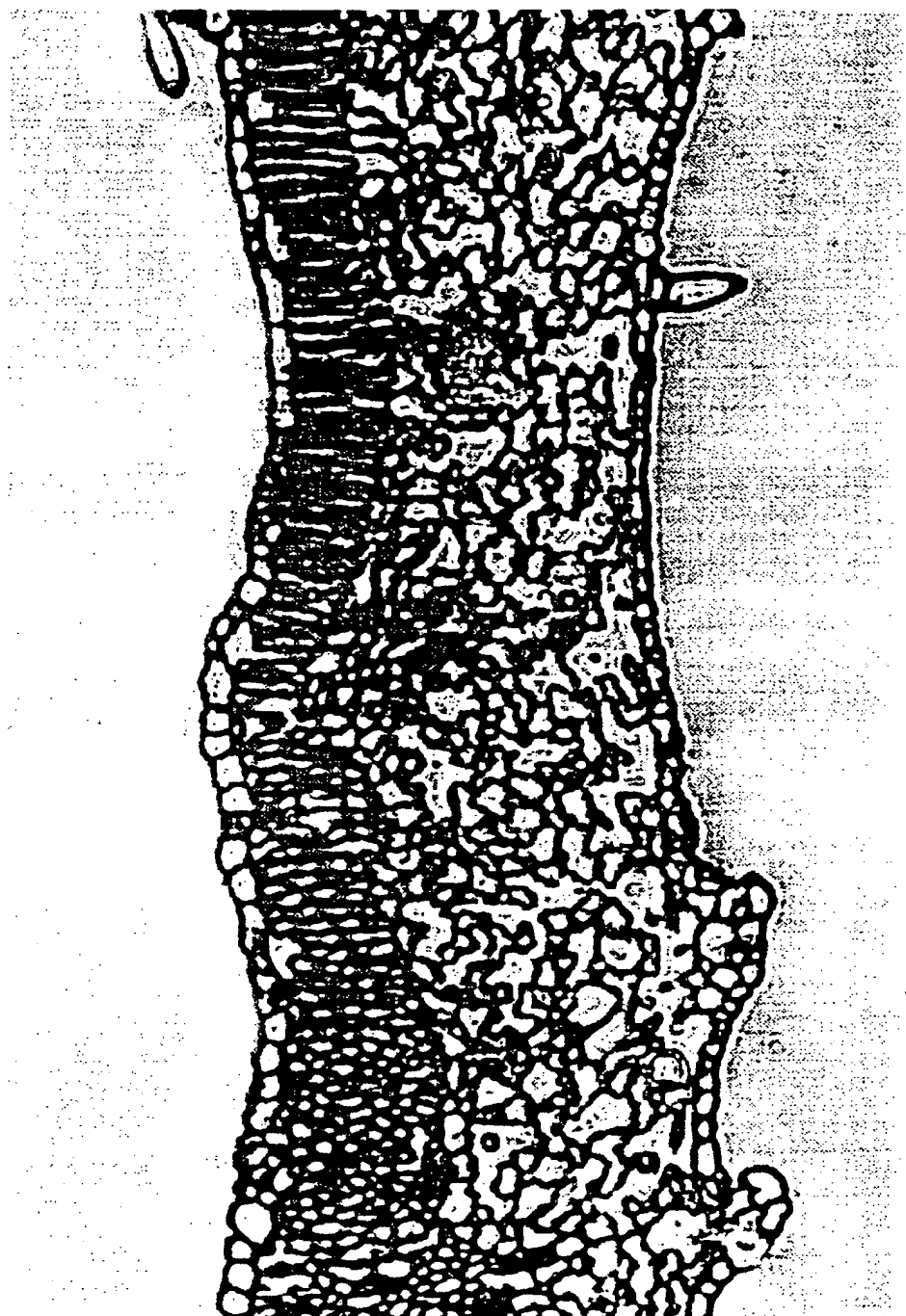


Figure 11

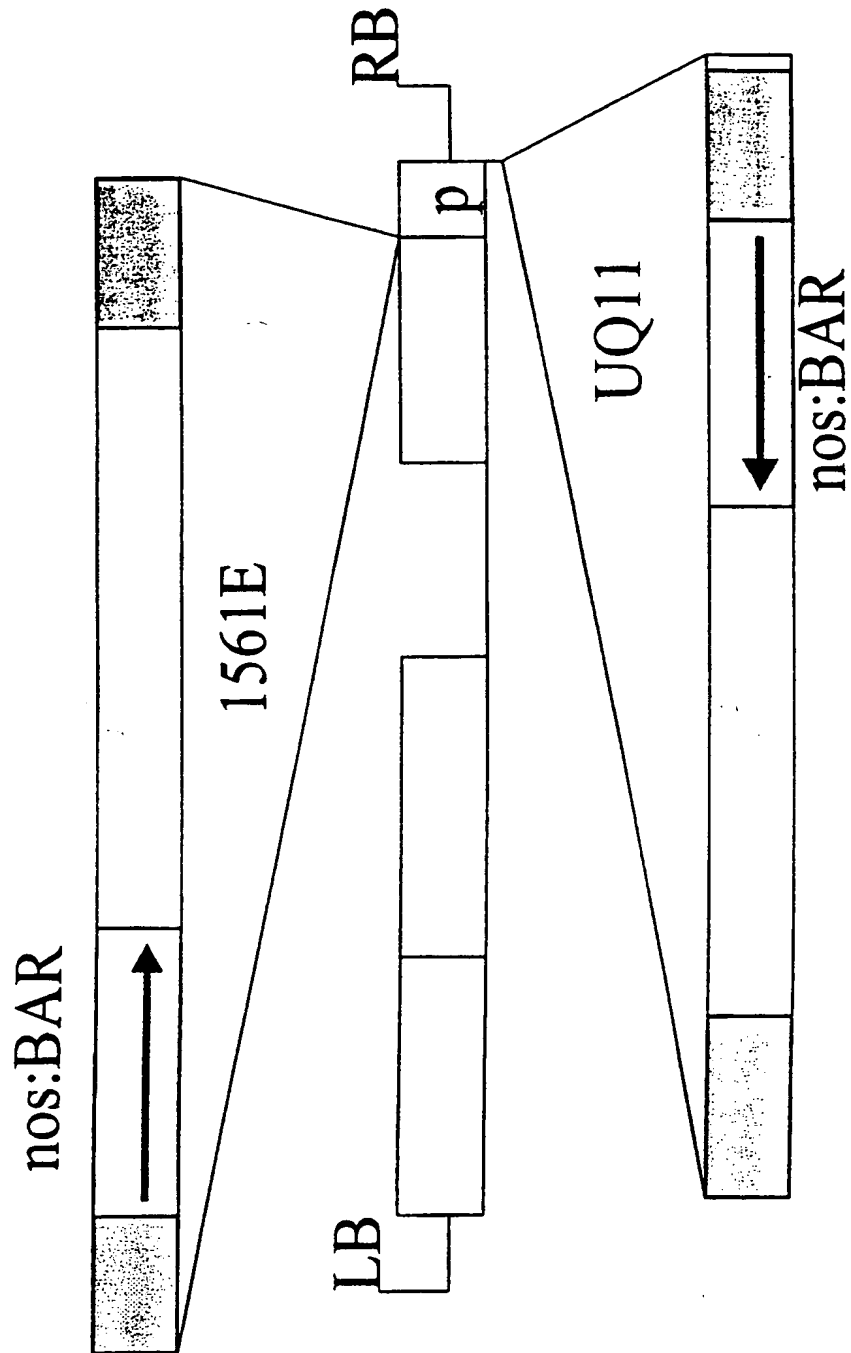
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1  CCGCTCATGA TCCCTGAAAG CGACGTTGGA TGTTAACATC TACAAATTGC
51  CTTTCTTAT  CGACCATGTA CGTAAGCGCT TACGTTTTTG GTGGACCCCTT
101 GAGGAAACTG GTAGCTGTTG TGGGCCCTGTG GTCTCAAGAT GGATCATTA
151 TTTCCACCCTT CACCTACGAT GGGGGGCATC GCACCCGGTGA GTAATATTGT
201 ACGGCTAAGA GCGAATTGG CCTGTAGACC TCAATTGCCA GCTTTTTAAT
251 TTCAAACATAT TCGGGCCCTAA CTTTGGTGT GATGATGCTG ACTGGACAAA
301 TTCAACCCAA TAAGCACATT CCTCTTATAA GATCCATCCC AATAACATGT
351 AAGTTCAAGG ACTCTAACCA CACACAAATT CACATTTCAT TTGTTAATCA
401 CCAAAAACAT CTTAAGAATC AACAAAAGC AAGTAGAATG TATCACTCAC
451 ATTAACCTTG CACAAGAAAT TCTTTGGCTC ATAACAACCTG CTGATCTTGA
501 AAAAGGAAGA AAAACAGATA TTTACAAAGA GAGACGAGAA AAGTAGCATT
551 GTTCATGATT TACCAGCTTT TGTCCCATCA GAATACCTCT GTCAATTCAA
601 TATTCTTTTG ATTGCTTGGN ACTTGTTCAA TCACATTGTT GCTATCTTTA
651 ACTGATCTCG ATCCTACTGT TCTTGATAG CACTGAGTTA GAACCAAAGA
701 AGCACATCTA AGAACTACAT TTGCACTATT TGCAATTATA GAGCTTAAAT
751 ATAGCCAGTG TTTTCTGACT AAACGAACGA TTGAGATCAA AAATACAATT
801 CCACATATAG CACCTGAAAT AAGTAACGGA CCTGAGAACA ACTCTGGTCC
851 TAATCCAGGA TCATGTTCCA CCAGCCCGGG CCGTCG

```

Figure 12

**UQ11 carries a Ds insertion in the RB of the**  
**T-DNA**



**Figure 13**